

Title (en)
VARIABLE ORIFICE FLOW SENSOR

Title (de)
DURCHFLUSSSENSOR MIT VERÄNDERBARER MESSBLENDE

Title (fr)
DETECTEUR D'ECOULEMENT A SECTION VARIABLE

Publication
EP 1047919 A4 20071017 (EN)

Application
EP 98962103 A 19981214

Priority
• US 9826551 W 19981214
• US 99450197 A 19971230

Abstract (en)
[origin: WO9934173A1] A variable orifice flow sensor (10) includes a flow conduit member defining a flow orifice and fluidly connecting first and second fluid flow ports (12, 16), a flapper of magnetizable sheet metal that is mount in the conduit member by a hinge portion so that the flapper angularly deflects out of the plane of the orifice (18) in response to fluid flow through the conduit member to vary the effective fluid flow cross-sectional area of the orifice in proportion to the flow rate of fluid through the conduit member, and a pressure sensing tap on either side of the flapper. A deflection-limiting surface is provided in the conduit member adjacent the hinge portion. The hinge portion abuts against the deflection-limiting surface when the flapper experiences an angular deflection at least equal to a predefined angle in response to a fluid flow rate that is at least equal to a predetermined value, whereby overstressing the hinge portion is minimized.

IPC 1-7
G01F 1/22

IPC 8 full level
A61B 5/087 (2006.01); **A61M 5/00** (2006.01); **G01F 1/36** (2006.01); **G01F 1/40** (2006.01); **G01F 1/42** (2006.01)

CPC (source: EP US)
A61B 5/0876 (2013.01 - EP US); **G01F 1/363** (2013.01 - EP US); **G01F 1/40** (2013.01 - EP US); **G01F 1/42** (2013.01 - EP US)

Citation (search report)
• [XY] DE 2558935 A1 19770707 - SIEMENS AG
• [Y] US 4206644 A 19800610 - PLATT ADAM S [GB]
• [DY] US 4993269 A 19910219 - GUILLAUME DARRELL W [US], et al
• [A] SU 1442218 A1 19881207 - LOPATA VIKTOR A [SU]
• [A] GB 1555016 A 19791107 - SIEMENS AG
• [A] US 4083245 A 19780411 - OSBORN JOHN J

Designated contracting state (EPC)
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DOCDB simple family (publication)
WO 9934173 A1 19990708; BR 9814569 A 20001114; CN 1188666 C 20050209; CN 1285038 A 20010221; EP 1047919 A1 20001102; EP 1047919 A4 20071017; EP 1047919 B1 20141001; EP 2275783 A2 20110119; EP 2275783 A3 20110608; JP 2002500345 A 20020108; JP 4253125 B2 20090408; US 5970801 A 19991026

DOCDB simple family (application)
US 9826551 W 19981214; BR 9814569 A 19981214; CN 98813682 A 19981214; EP 10012520 A 19981214; EP 98962103 A 19981214; JP 2000526780 A 19981214; US 99450197 A 19971230